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- Published:**
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- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

(54) Title: **PROCESS FOR THE MANUFACTURING OF CELLULOSE PULP**

(57) Abstract: The invention concerns a method for the production of cellulose pulp, in which wood raw material that principally comprises softwood, preferably in the form of cut wood chips, is treated in several stages in various treatment steps, whereby one of the stages comprises cooking the material in an alkali cooking fluid, with the aim of obtaining improved quality with respect to tensile strength, and of obtaining higher yield, whereby a controlled addition of wood raw material in the form of hardwood at an amount corresponding to 1-20% of the amount of softwood, preferably 3-15%, and more preferably at least 5%, takes place.

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/SE 03/00712

A. CLASSIFICATION OF SUBJECT MATTER

IPC7: D21C 3/02, D21C 3/22

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC7: D21C

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

SE,DK,FI,NO classes as above

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

EPO-INTERNAL, WPI DATA, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	DATABASE WPI Week 197827 Derwent Publications Ltd., London, GB; Class F09, AN 1978-48301A & JP 53058003 A (OJI PAPER CO), 25 May 1978 (1978-05-25) --	1-17
A	US 4152197 A (JONAS A.I. LINDAHL ET AL), 1 May 1979 (01.05.79), claims 1,15 -- -----	1-17

☐ Further documents are listed in the continuation of Box C.

☒ See patent family annex.

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INTERNATIONAL SEARCH REPORT
Information on patent family members

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Patent document cited in search report			Publication date	Patent family member(s)		Publication date
US	4152197	A	01/05/79	AU	475099 B	12/08/76
				AU	8463075 A	12/08/76
				BR	7506140 A	03/08/76
				CA	1065560 A	06/11/79
				DE	2540917 A,B	01/04/76
				FI	57454 B,C	30/04/80
				FI	752632 A	24/03/76
				FR	2285490 A,B	16/04/76
				GB	1521331 A	16/08/78
				GB	1521332 A	16/08/78
				JP	909691 C	08/05/78
				JP	51060703 A	26/05/76
				JP	52039921 B	07/10/77
				NO	147115 B,C	25/10/82
				NO	753227 A	24/03/76
				SE	385719 B,C	19/07/76
				SE	7411950 A	24/03/76
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